



Overview

The NEO FBG Interrogator platform is FiSens’s latest innovation, featuring a powerful set of precise, accurate fiber Bragg grating (FBG) measurements and an unprecedented multiplexing capability of up to 360 sensing points over 12 optical fibers.

The NEO platform is designed as a highly inter-operable measurement instrument for direct, seamless integration into any industrial environment. It has a DIN-rail mounting clip and supports most common industrial fieldbuses, including PROFINET, CANopen, and EtherNet/IP as well as machine-to-machine communication protocols such as MQTT.

Equipped with an RTOS, web server, and over-the-air firmware update capabilities, the NEO FBG Interrogator supports IoT-ready applications, ultimately easing the setup and utilization of temperature or strain sensing fibers.

AT A GLANCE

Multiplexing Capabilities

Up to 12 Channels and
360 Sensing Points

Precision

Up to 0.1 °C and
1µm/m resolution

Operation

RTOS, web server and
over-the-air firmware updates

Measurement Ranges

-200 °C to 800 °C and
± 10.000µm/m

Accuracy

±0.5% F.S. or
±1 °C | 10µm/m

Interface

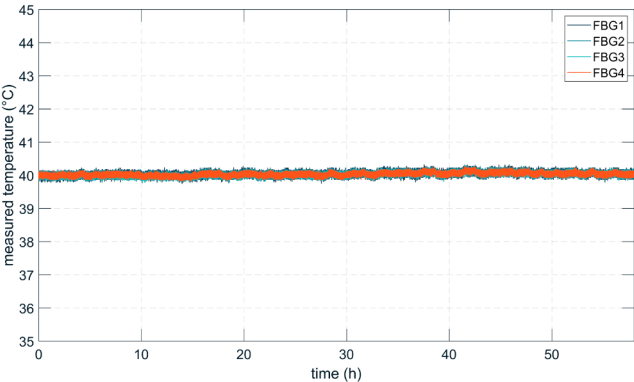
DIN clip, 10-28V, CANopen,
Profinet, Ethernet and MQTT

| Performance | Precision Series | | Multiplex Series | |
|-----------------------|------------------------------------|----------------|----------------------------|-----------------|
| Type | NEO 100-2 | NEO 100-4 | NEO 30-6 | NEO 30-12 |
| Number of Channels | 2 | 4 | 6 | 12 |
| FBG Sensors/Channel | Up to 30 | | | |
| Total FBG Sensors | 60 | 120 | 180 | 360 |
| Max. Sampling Rate | up to 1kHz (simultaneous) | | up to 100Hz (simultaneous) | |
| Temperature Range | -200°C to 800°C (Sensor-dependent) | | | |
| Strain Range | ± 10.000µm/m (Sensor-dependent) | | | |
| Precision (10Hz, 2σ) | Temp: ≤0.1°C | Strain: ≤1µm/m | Temp: ≤0.5°C | Strain: ≤5µm/m |
| Precision (100Hz, 2σ) | Temp: ≤0.4°C | Strain: ≤4µm/m | Temp: ≤1.5°C | Strain: ≤15µm/m |
| Accuracy* | ±0.5% F.S. or ±1°C 10µm/m | | ±1% F.S. or ±2°C 20µm/m | |

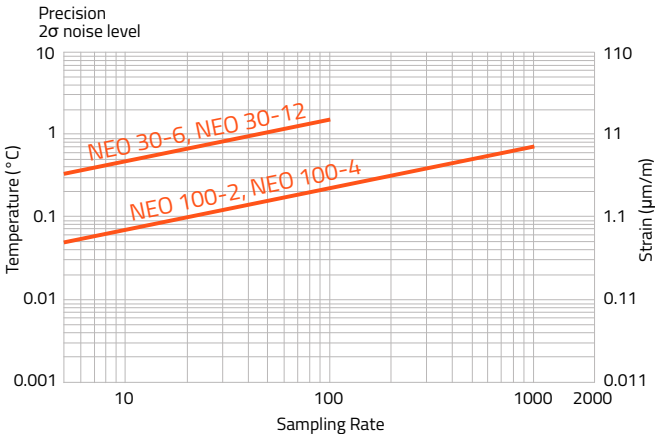
| Physical | | | | |
|-----------------------|---------------------------------|----|----|----|
| Operating Temperature | -20°C to 70°C | | | |
| Storage Temperature | -40°C to 80°C | | | |
| Dimensions | 162.5 x 129 x 48mm ³ | | | |
| Weight | 750g | | | |
| Power Consumption | 4W | 6W | 4W | 6W |

| Communication | | | | |
|----------------------|------------------------------|--|--|--|
| Optical Interface | E-2000 APC | | | |
| Electrical Interface | 10-28V, USB C, Ethernet, CAN | | | |
| Data Protocol | CANopen, PROFINET, MQTT | | | |

Long-Term Stability
(<0.06°C @ 60h, σ)



Precision vs. Sampling Rate (Hz)



Technical Drawing

